

5-4 Working Drawings and Submittals

The contract documents require the construction contractor to provide working drawings for specific items of work to supplement the contract plans. The working drawings must be submitted directly to the Engineer (Structure Representative or Resident Engineer) or to the Office of Structure Design, Documents Unit (hereinafter referred to as the Documents Unit) as required by the contract documents.

When the Contractor is required to submit working drawings to the Documents Unit, the Contractor must do so, even for locally administered projects. Failure to comply usually results in extended review times. The Standard Specifications and the Contract Special Provisions indicate requirements for the working drawing submittal. Deviation from the specified submittal process must be approved in advance by the Liaison Engineer through a contract change order.

Types of Working Drawings

The following types of working drawings are examples of those that require submission to the Engineer for approval. The Engineer reviews and approves these working drawings at the “field level”.

- Temporary Facilities
- Shoring and Cofferdam Systems
- Structure Mounted Utilities
- Standard Piles
- Falsework and Forming Systems
- Sign Structures
- Temporary Supports
- Bridge Removal Plans
- Precast Concrete Box Culverts
- Soundwalls
- Slip Forms for Retaining Walls
- Permanent Railing

The following types of working drawings are examples of those that require submission to the Documents Unit for distribution:

Bridge Related:

- Prestressing Systems
- Structural Steel

- Temporary Support of Casing
- Test Borings
- Micropile Systems
- Proprietary Piling Systems
- Precast Concrete Bridge Members
- PTFE Bearings
- Alternative Joint Seal Assemblies ($MR \leq 100$)
- Joint Seal Assemblies ($MR > 100$)
- Asphaltic Plug Joint Seal Systems

Wall Related:

- Proprietary Earth Retaining Systems
- Soil Nail Wall Systems
- Tieback Anchor Systems
- Proprietary Soundwall Systems

Working drawings related to buildings and pump plants are not covered in this section. For working drawings affiliated with pump plants, see the “Pump Plant” section elsewhere in this guide. For buildings, the responsible OSFP Structure Liaison should be contacted for guidance.

Working Drawings Submitted to the Documents Unit

The remainder of this section will refer to working drawings that require submittal to the Documents Unit.

Roles and Responsibilities

Documents Unit

- The central processing hub which receives and distributes all working drawing submittals and reviews.
- Tracks and records all submittals and reviews throughout the submittal and review process.

DES Functional Units and Technical Specialists

- Includes but is not limited to the Office of Structure Construction, OSFP, METS, and Technical Specialists.
- Perform reviews only in their area of expertise and in accordance to their internal procedures.

- Forwards comments to the Liaison Engineer.

Liaison Engineer

- Gathers, interprets, and consolidates review comments from DES functional units and specialists.
- Transmits DES shop drawing comments to the Documents Unit.
- Provides quality assurance of the Design Consultant's review.

Design Consultant

- The Engineer of Record responsible for the approval of the working drawings.
- Ensures the working drawings are compatible with the contract plans.
- Incorporates comments received from the Liaison Engineer. Discusses with the Liaison Engineer comments that are not incorporated.
- Stamps the drawings as whether they are approved or must be resubmitted.

Submittal, Review and Approval Process

The procedure for the submittal, review, approval and distribution of working drawings is illustrated in the attached Consultant Design-Working Drawing Flow Chart (Attachment 5-4.1). Additional documentation regarding the review and approval process is found in the Memos to Designers. Below is a brief description of the key steps involved in the process.

Submittal

- The working drawing submittal process begins with the Contractor's submittal to the Documents Unit.
- The Documents Unit logs in the submittals and distributes them to the appropriate DES functional units, Technical Specialists and the Design Consultant for concurrent reviews.
- Additional submittal sets are needed when other entities are involved in the review and/or approval process, such as for railroad underpass structures.

Reviews

- Reviews are performed by each responsible party according to their internal procedures.
- The OSFP Structure Liaison collects, interprets and consolidates review comments from the individual DES functional units and submits them to the Documents Unit for transmittal to the Design Consultant.
- The Design Consultant generates final review comments, stamps the drawings, and returns them to the Documents Unit for distribution.

1. The Design Consultant must stamp the appropriate number of drawing sets with “Approved”, “Approved with Minor Corrections” or “Returned for Correction”.
2. The Design Consultant must use overnight delivery to return stamped drawings to the Documents Unit.
3. The Documents Unit transmits the stamped submittals by overnight delivery to the Contractor.

Resubmittals

- When drawings are stamped with “Return for Correction”, the Contractor must prepare revised working drawings and resubmit to the Documents Unit, for distribution and review as outlined in the Consultant Design-Working Drawing Flow Chart (Attachment 5-4.1).

Approval

- The resubmittal and review of working drawings continues until the Design Consultant approves the drawings.
- Approved drawings must be stamped by the Design Consultant with “Approved” or “Approved with Minor Corrections”.
- The Design Consultant returns the proper number of stamped sets to the Documents Unit for distribution (see preceding “Reviews”).

As-Built Working Drawings

- The contract documents require the Contractor to submit As-Built Working Drawings to the Documents Unit.
- These drawings will be recorded and included in the DES “As-Built” database along with the As-Built of the contract plans for future reference.
- Refer to the “As-Built” section of this manual for additional information.

Attachments:

- 5-4.1 Consultant Design-Working Drawing Flow Chart for Local Advertised Projects
- 5-4.2 Consultant Design-Working Drawing Flow Chart for State Advertised Projects



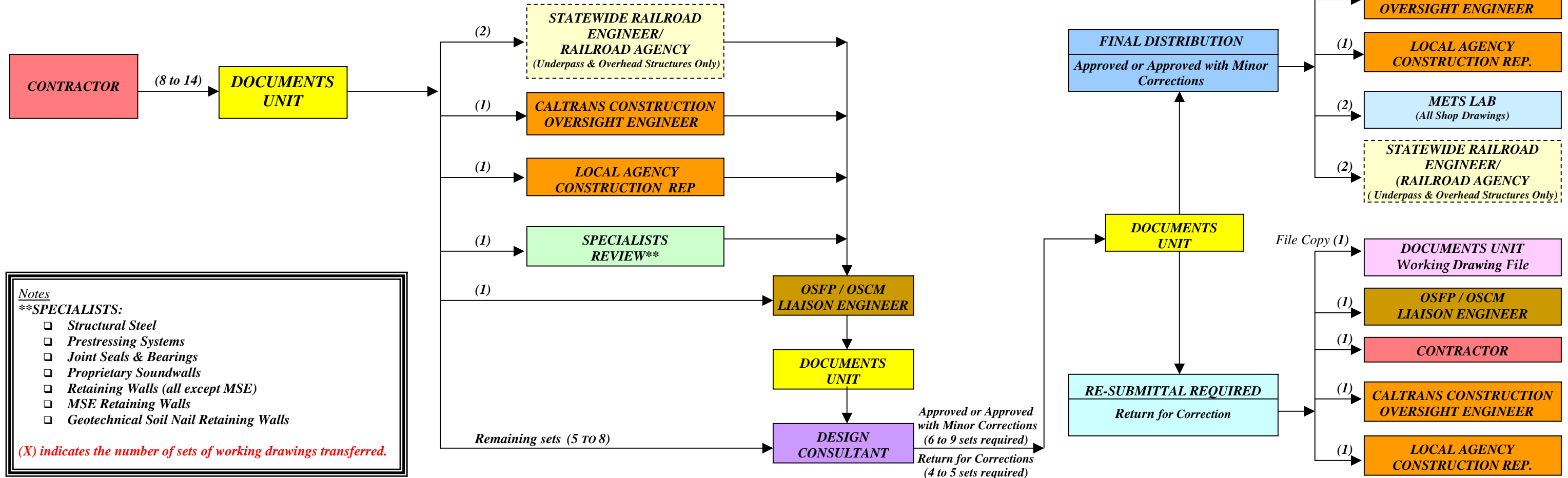
CONSULTANT DESIGN - LOCALLY ADMINISTERED WORKING DRAWING FLOWCHART

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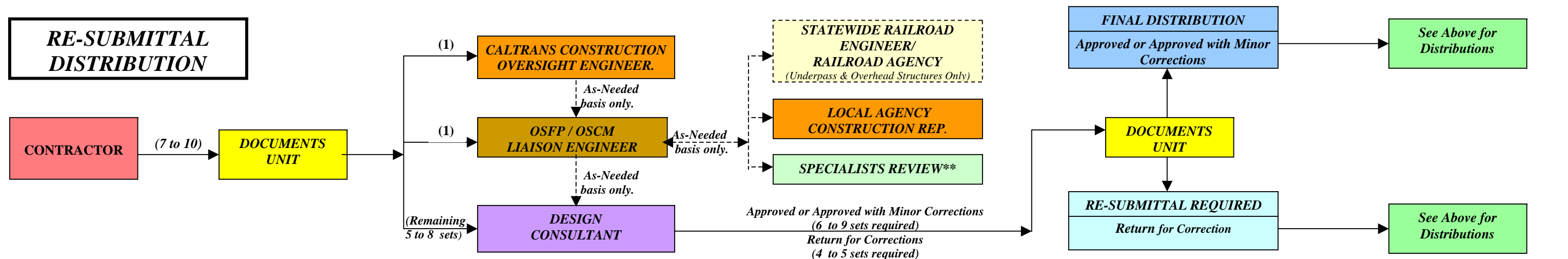
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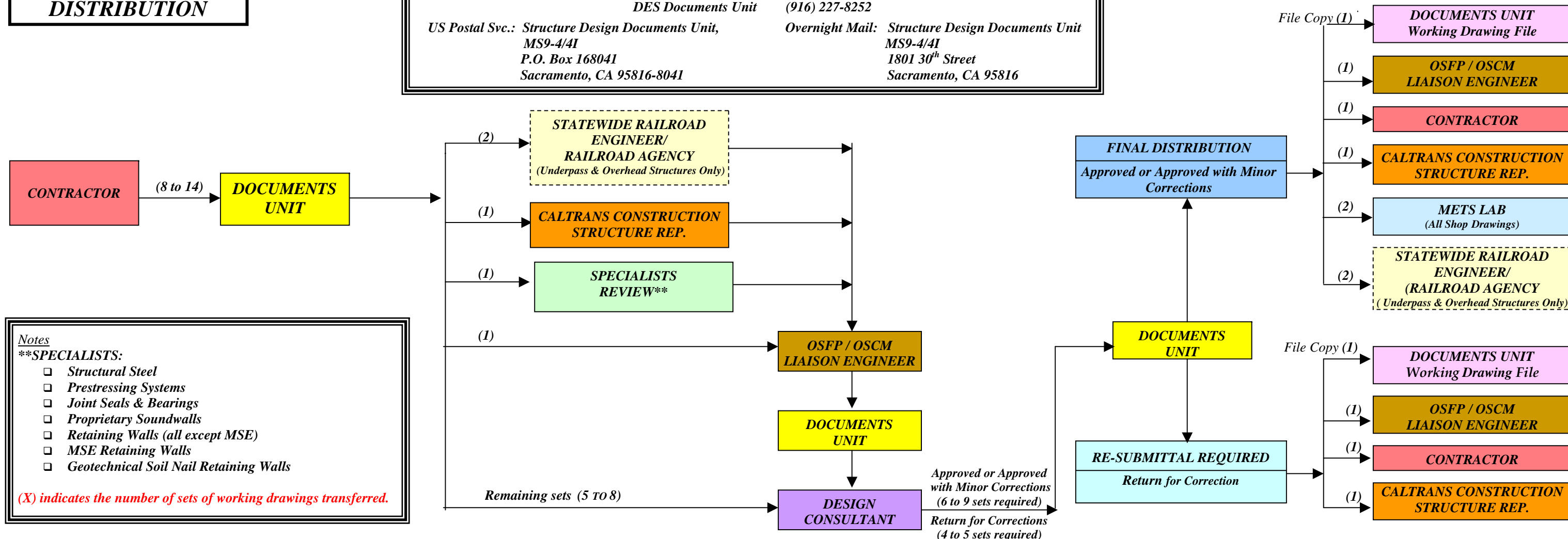
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